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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/665,133	09/19/2000	Joji Nakane	NAK1-BM62	4836
21611	7590	06/28/2004	EXAMINER	
SNELL & WILMER LLP 1920 MAIN STREET SUITE 1200 IRVINE, CA 92614-7230			PERILLA, JASON M	
			ART UNIT	PAPER NUMBER
			2634	10

DATE MAILED: 06/28/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/665,133

Applicant(s)

NAKANE ET AL.

Examiner

Jason M Perilla

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 May 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 7-11 and 15 is/are allowed.
- 6) ☒ Claim(s) 1,2,12 and 16-18 is/are rejected.
- 7) ☒ Claim(s) 3-6,13 and 14 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 September 2000 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

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DETAILED ACTION

1. Claims 1-18 are pending in the instant application.

Response to Arguments/Amendments

2. Applicant's arguments with respect to claims have been considered and are moot in view of the new ground(s) of rejection. The amendments filed May 17, 2004 overcome the previous art rejections. However, new art rejections are made below.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1, 2, 12, and 16-18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hollenbeck et al (US 5930304; hereafter "Hollenbeck") in view of Miyamoto (US 5864588).

Regarding claim 1, Hollenbeck discloses a contactless IC card comprising: a demodulator circuit (fig. 1, ref. 32) which receives a carrier wave that has been ASK modulated with digital data (col. 5; line 42). Hollenbeck does not disclose suspending means which suspends the demodulation by the demodulator circuit during a period within each period corresponding to each bit of the digital data where there is no possibility of a change of a data value in the digital data. However, Miyamoto teaches suspending means (fig. 9, ref. 695) which suspends the demodulation by the demodulator circuit (fig. 9, ref. 620b) during a period

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within each period corresponding to each bit of the digital data where there is no possibility of a change of a data value in the digital data (fig. 8; col. 9, lines 22-47). Miyamoto teaches that the suspending means is used to prevent the recognition of an incorrect change of phase or an incorrect symbol change (col. 9, lines 60-65). Therefore it would have been obvious to one having ordinary skill in the art at the time which the invention was made to utilize the suspending means as taught by Miyamoto in the IC card of Hollenbeck because it could advantageously be used to prevent the recognition of an incorrect change of a symbol.

Regarding claim 2, Hollenbeck in view of Miyamoto disclose the limitations of claim 1 as applied above. Further, Hollenbeck discloses a detector circuit which detects an envelope of the ASK modulated carrier wave (fig. 5, ref. 514), a reference voltage generator (fig.5, ref. 506), a differential circuit which receives the envelope from the detector circuit and outputs the differential components of the received envelope based on the reference voltage (fig. 5, ref. 528; col. 6, lines 52-55), and a comparator circuit (fig. 5, refs, 530, 532) which includes a first input terminal for receiving the output of the differential circuit and an output terminal, compares a voltage at the first input terminal and a voltage at the second input terminal and inverts an output of the output terminal if a difference between the tow voltages exceeds a predetermined value (col. 6, lines 63-65).

Regarding claim 12, Hollenbeck discloses a contactless IC card comprising: a demodulator circuit (fig. 5, ref. 500) which receives a carrier wave that has been ASK-modulated (col. 5; line 42) with digital data, and demodulates

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the ASK-modulated carrier wave to recover the digital data; wherein the demodulator circuit includes: a detector circuit (fig. 5, ref. 514) which detects an envelope of the ASK-modulated carrier wave; a reference voltage generator circuit which outputs a reference voltage (fig. 5, ref. 506); a differential circuit which receives the envelope from the detector circuit and outputs differential components of the received envelope based on the reference voltage (fig. 5, ref. 528); and a comparator circuit (fig. 5, refs. 530, 532) which includes a first input terminal for receiving the output of the differential circuit, a second input for receiving the output of the reference voltage generator circuit, and an output terminal, compares a voltage at the first input terminal and a voltage at the second input terminal, and inverts an output of the output terminal if a difference between the two voltages exceeds a predetermined value; and wherein the comparator circuit has a hysteresis between upper and lower threshold values with respect to this reference voltage (col. 5, lines 48-58). Although the hysteresis of the comparator is described for the comparator of figure 1, it is obviously applicable and implied to that of figure 5. Further, it is obvious that the comparator's hysteresis would define both an upper threshold value being a sum of the predetermined value and the reference voltage, and the lower threshold value being a difference of the predetermined value from the reference voltage. Hollenbeck discloses the predetermined levels of hysteresis set between the noise level and the carrier output level (col. 5, line 50) which are directly related to the reference level of the signal to be demodulated. Hollenbeck does not disclose a suspending means which suspends the demodulation by the

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demodulator circuit during periods where there is no possibility of a change of a data value in the digital data. However, Miyamoto teaches suspending means (fig. 9, ref. 695) which suspends the demodulation by the demodulator circuit (fig. 9, ref. 620b) during a period within each period corresponding to each bit of the digital data where there is no possibility of a change of a data value in the digital data (fig. 8; col. 9, lines 22-47). Miyamoto teaches that the suspending means is used to prevent the recognition of an incorrect change of phase or an incorrect symbol change (col. 9, lines 60-65). Because Hollenbeck does explain that it may be preferable to provide "gain control" of the hysteresis level of the comparator (col. 5, lines 56-58), it would be obvious to use the suspending means as a control signal to the hysteresis of the comparator. Therefore, it would have been obvious to one having ordinary skill at the time which the invention was made to utilize the suspending means as a control signal input as taught by Miyamoto in the IC card of Hollenbeck because it could advantageously be used to indicate the periods during which there is no possibility of a change of a data value in the digital data and sustain the predetermined value at a higher level to thereby sustain the width of the hysteresis at a greater level, during the periods where there is no possibility of a change of a data value in the digital data.

Regarding claim 16, Hollenbeck discloses a contactless IC card comprising: a demodulator circuit (fig. 1, ref. 32) which receives a carrier wave that has been ASK-modulated with digital data (col. 5; line 42), determines the times at which data changes occur (fig. 1, ref. 30), and demodulates the ASK-

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modulated carrier wave to recover the digital data. Hollenbeck does not disclose a suspension unit which suspends the demodulation by the demodulator circuit during inter-bit periods, wherein each inter-bit period begins after a time at which a data change occurs and ends prior to the time at which the immediately following data change occurs. However, Miyamoto does teach a suspension unit (fig. 9, ref. 695) which suspends the demodulation by the demodulator circuit (fig. 9, ref. 620b) during inter-bit periods, wherein each inter-bit period begins after a time at which a data change occurs and ends prior to the time at which the immediately following data change occurs (fig. 8; col. 9, lines 22-47). Miyamoto teaches that the suspending means is used to prevent the recognition of an incorrect change of phase or an incorrect symbol change (col. 9, lines 60-65). Therefore it would have been obvious to one having ordinary skill in the art at the time which the invention was made to utilize the suspending means as taught by Miyamoto in the IC card of Hollenbeck because it could advantageously be used to prevent the recognition of an incorrect change of a symbol.

Regarding claim 17, Hollenbeck in view of Miyamoto disclose the limitations of claim 16 as applied above. Further, Hollenbeck discloses that the IC card is powered by energy obtained from the ASK modulated carrier wave (col. 1, lines 45-50).

Regarding claim 18, Hollenbeck in view of Miyamoto disclose the limitations of claim 17 as applied above. Further, Miyamoto discloses a clock generating circuit generating a clock signal by frequency-dividing the ASK modulated carrier wave (col. 7, lines 11-24); wherein the clock signal is used to

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determine the periods during which demodulation is suspended (col. 7, lines 38-41). Because the sampling of the carrier wave is dependent upon the clock circuit and the output of the suspension unit (fig. 9, ref. 695) depends upon the sampling (fig. 8; col. 9, lines 19-47), the clock period inherently determines the periods which demodulation is suspended.

Allowable Subject Matter

5. Indication of allowable subject matter is made regarding claims 7-11 and 15.
6. Claims 3-6, 13, and 14 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.
7. The Examiner notes that the subject matter regarding the shorting switch between the comparator inputs and the use of a comparator time constant is allowable material.

Conclusion

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory

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period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jason M Perilla whose telephone number is (703) 305-0374. The examiner can normally be reached on M-F 8-5 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steven Chin can be reached on (703) 305-4714. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Jason M. Perilla
June 21, 2004

jmp

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A handwritten signature in black ink, appearing to read 'S. Chin', with a long horizontal flourish extending to the right.

**STEPHEN CHIN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800**